

**Town of Speedway
Wastewater Treatment Plant**

**Annual Report
For 2015**

| Plant Influent | | | | 2015 | 2014 | Increase (Decrease) |
|---|--|--|--|-------------|-------------|----------------------------|
| Precipitation, inches | | | | 48.4 | 38.96 | 9.44 |
| Total gallons treated, MG | | | | 1,847.06 | 1,779.88 | 67.18 |
| Total raw sewage captured & treated, % | | | | 98.6 | 99.67 | (1.1) |
| Average daily flow, MGD | | | | 5.05 | 4.88 | 0.17 |
| Highest average daily flow, MGD | | | | 7.59 | 6.63 | 0.96 |
| Gallons per capita per day | | | | 230 | 222 | 8 |
| Population Equivalent | | | | 27,858 | 22,272 | 5,586 |
| Industrial Flow, MG | | | | 205.55 | 208.10 | (2.55) |
| Carbonaceous Biochemical Oxygen Demand, mg/l | | | | 154 | 133 | 21 |
| CBOD, highest monthly average, mg/l | | | | 229 | 178 | 51 |
| CBOD, total pounds | | | | 2,231,355 | 1,784,978 | 446,377 |
| Total Suspended Solids, mg/l | | | | 138 | 150 | (12) |
| TSS, highest monthly average, mg/l | | | | 204 | 201 | 3 |
| TSS, total pounds | | | | 2,030,823 | 2,045,304 | (14,481) |
| Ammonia, mg/l | | | | 15.76 | 12.75 | 3.01 |
| Ammonia, highest monthly average, mg/l | | | | 20.76 | 19.30 | 1.46 |
| Ammonia, total pounds | | | | 225,828 | 172,401 | 53,427 |
| Combined Sewer Overflows¹ | | | | 14 | 3 | 11 |
| CSO, total gallons discharged, MG | | | | 26.34 | 5.88 | 20.46 |
| Percentage of total raw sewage untreated | | | | 1.4 | 0.3 | 1.1 |
| Final Effluent | | | | | | |
| CBOD, mg/l | | | | 3.5 | 3.2 | 0.3 |
| CBOD, highest monthly average, mg/l | | | | 6.0 | 8.0 | (2.0) |
| CBOD, pounds removed | | | | 2,183,557 | 1,730,438 | 453,119 |
| CBOD, percent removal | | | | 97.9 | 97.6 | 0.3 |
| TSS, mg/l | | | | 7.7 | 6.4 | 1.3 |
| TSS, highest monthly average, mg/l | | | | 10.0 | 10.3 | (0.3) |
| TSS, pounds removed | | | | 1,924,882 | 1,963,020 | (38,138) |
| TSS, percent removal | | | | 94.8 | 94.9 | (0.1) |
| Ammonia, mg/l | | | | 0.54 | 0.31 | 0.23 |
| Ammonia, highest monthly average, mg/l | | | | 0.82 | 0.91 | (0.09) |
| Ammonia, pounds removed | | | | 218,997 | 168,234 | 50,763 |
| Ammonia, percent removal | | | | 97.0 | 96.9 | 0.1 |
| E.coli, colonies per 100ml | | | | 26 | 32 | (6) |
| E.coli, number of days over 235 | | | | 2 | 0 | 2 |

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| | | | | | <u>2015</u> | <u>2014</u> | <u>Increase (Decrease)</u> |
|-------------------------------------|---|--|--|----|--------------|-----------------|----------------------------|
| Effluent Violations | | | | | 0 | 0 | 0 |
| <u>Sludge Data</u> | | | | | | | |
| Gallons produced | | | | | 11,829,000 | 8,677,000 | 3,152,000 |
| Gallons processed | | | | | 9,731,800 | 10,890,400 | (1,158,600) |
| Wet tons produced | | | | | 2,386 | 3,647 | (1,261) |
| Wet tons removed (Land Application) | | | | | 2,370 | 2,141 | 229 |
| Disposal costs | | | | \$ | 59,182.25 | \$ 57,353.27 | \$ 1,828.98 |
| Disposal cost per ton | | | | \$ | 24.97 | \$ 26.79 | \$ (1.82) |
| Methane produced, ccf | | | | | 118,581 | 145,179 | (26,598) |
| Methane used (boiler), ccf | | | | | 67,648 | 66,909 | 739 |
| <u>Cost Data</u>² | | | | | | | |
| Total Revenue | | | | \$ | 6,746,878.61 | \$ 6,495,122.95 | \$ 251,755.66 |
| Total Expenditures | | | | \$ | 6,472,179.17 | \$ 5,519,694.00 | \$ 952,485.17 |
| Operation & Maintenance Costs | | | | \$ | 3,759,962.57 | \$ 3,574,312.84 | \$ 185,649.73 |
| Cost per Capita | | | | \$ | 294.19 | \$ 250.90 | \$ 43.29 |
| Cost per Million Gallons Treated | | | | \$ | 3,504.04 | \$ 3,101.16 | \$ 402.88 |
| Cost per pound of CBOD Treated | | | | \$ | 0.50 | \$ 0.54 | \$ (0.03) |
| Cost per pound of TSS Treated | | | | \$ | 0.50 | \$ 0.54 | \$ (0.03) |
| Cost per pound of Ammonia Treated | | | | \$ | 0.50 | \$ 0.54 | \$ (0.03) |
| <u>Definitions</u> | | | | | | | |
| CBOD - | The rate at which organisms use the oxygen in water or wastewater while stabilizing decomposable organic matter under aerobic conditions. In decomposition, organic matter serves as food for the bacteria and energy results from its oxidation. CBOD measurements are used as a measure of the strength of organic wastes in water. | | | | | | |
| cf - cubic feet | | | | | | | |
| CSO - | combined sewer overflow. A point where a mixture of stormwater and wastewater in a combined sewer discharges untreated to a water body. | | | | | | |
| mg/l - | milligrams per liter. A measure of the concentration by weight of a substance per unit volume. For practical purposes, one mg/l of a substance in water is equal to one part per million parts. (ppm) | | | | | | |
| MG - | million gallons | | | | | | |

| | | | | | | | |
|---|--|--|--|--|--|--|--|
| | | | | | | | |
| MGD - | million gallons per day | | | | | | |
| | | | | | | | |
| Operation & maintenance costs - that portion of the total expenditures attributed solely | | | | | | | |
| | to the operation and maintenance of the treatment plant and collection system. | | | | | | |
| | | | | | | | |
| Population Equivalent - a means of expressing the strength of organic material in wastewater. In a | | | | | | | |
| | domestic wastewater system, microorganisms use up about 0.2 pounds of oxygen per day | | | | | | |
| | for each person using the system. | | | | | | |
| | | | | | | | |
| TSS - | Total Suspended Solids. Solids that either float on the surface or are suspended in | | | | | | |
| | wastewater, and which are largely removable by laboratory filtering. The quantity of | | | | | | |
| | material removed from wastewater in a laboratory test is referred to as total | | | | | | |
| | suspended solids. | | | | | | |
| | | | | | | | |
| Footnotes: | | | | | | | |
| | | | | | | | |
| 1. All of the CSO's in 2014 and 2015 met the criteria for enforcement discretion from IDEM. 9 of the 14 CSO's | | | | | | | |
| in 2015 were in July due to a major storm. There was 13.7" of rain and widespread power outages. | | | | | | | |
| 2. The 2014 cost data has been revised based on the best information currently available. | | | | | | | |